

PROCEEDINGS OF LEARNED SOCIETIES.

LINNEAN SOCIETY.

November 1, 1853.—Thomas Bell, Esq., President, in the Chair.

Mr. James Yates, F.L.S., offered some observations on the inflorescence of *Cycas revoluta* and *Macrozamia spiralis*, illustrated by specimens.

CYCAS REVOLUTA.

Prof. Miquel of Amsterdam, to whom we now look for the best systematic arrangement and description of Cycads, remarks, that male specimens are rarer in Europe than female. "Specimina culta," says he, "omnia ferè feminea. Masculinum in Horto Petropolitano exstat, ubi bis floruit (Otto u. Dietr. Gartenz. vii. 1839, p. 24)." See his 'Monographia Cycadearum,' 1842, folio, p. 24, and his "Genera et Species Cycadearum viventium" in the 'Linnæa' for 1843, p. 683. This observation is certainly true in regard to Great Britain. Since the first example of the female at Farnham, described by Sir J. E. Smith in the 'Linnean Transactions,' vol. vi., not less than six other plants have borne fruit, and some of them two or three times, viz. at Chatsworth, Ravensworth Castle, Laurel Mount and Knowsley near Liverpool, Kew, and Lauderdale House, Highgate. The plant last alluded to (Mr. J. Yates's) flowered in 1845, and subsequently produced four magnificent crowns of leaves, the finest of them consisting of fifty-three leaves. In October 1852, the first appearance of another cone was indicated by scales, covered with their soft yellow tomentum; but it remained long doubtful whether this would turn out to be another crown of leaves, or a head of fruit-bearing fronds. In April last the question was determined, as the peculiar palmate fronds were clearly seen, and were closely folded over one another, having the form of a somewhat flattened spheroid and the size of a moderately large melon. In May these fronds or *spadices* increased rapidly and vigorously. They expanded and remained open three days, so that the young drupes, also covered with down and nearly the size and form of horse-beans, were easily discernible. They then closed again, and the whole spheroid became as compact and solid as before. It was conjectured that this temporary disclosure of the drupes, supposing it to be the habit of the plant, might be a provision for their fecundation, admitting of the access of the pollen. The fronds, which are crimson shaded by their thin covering of yellow down, are now spread in all directions and have attained their full development, except that the drupes, perhaps in consequence of the cold, wet, and dull season, fall without having come to perfection. It is also to be observed, that these fronds, about 110 in number, are closely set and spirally arranged upon a very short axis. The distance between them and the fronds of 1845 is about 8 inches or 20 centimetres, showing an elongation of the trunk of 1 inch for each year.

Miquel mentions only one *male* plant, viz. that at St. Petersburg; and in this country it cannot be ascertained that more than two males have produced cones, to wit, those in the Botanic Garden at

Sheffield, and that belonging to Henry Ricketts, Esq., at the Grove, Brislington, near Bristol. The Sheffield plant has now flowered thrice. Its first cone, produced in England, is preserved in the Museum at York; its second belongs to the Royal Botanic Society in the Regent's Park; its third appeared this year, and, that it might be suitably displayed, the whole plant was transported to York last summer and was there publicly exhibited. It is now taken back to Sheffield. It appears that this male was purchased by the late Earl of Derby, formerly President of the Linnæan Society, about A.D. 1825, together with the female already noticed, which is a noble specimen, still preserved at Knowsley, and which bore fruit in 1850. The Brislington specimen has been in the possession of its present owner about half a century, and may be between fifty and sixty years old. In 1847 it raised a cone or spike 58 c. (*i. e.* 23 in.) long, which is agreeable to the ordinary size and form of this production; and now it has raised a second, but with a remarkable anomaly in its development. This is not half the length of its predecessor, and, instead of being drawn to a point, is curtailed and terminates abruptly in a tuft of barren scales, resembling those, which, as intimated above, always precede the rise either of a crown of leaves or of a fruit-bearing cone. A check in the development of the cone appears to have been sustained, preventing the further prolongation of its axis, and at the same time causing its scales to be no longer dilated and antheriferous.

MACROZAMIA SPIRALIS.

Mr. Yates next exhibited a small, but perfect specimen of the cone of a male plant, which he lately imported from Sydney. This is probably the first time that a *Macrozamia* has produced a cone in this country. Together with the recent cone Mr. Yates showed also two old specimens, which had been sent with the living plant by W. S. MacLeay, Esq., F.L.S., and which that gentleman obtained near his own residence at Elizabeth Bay. One of these two specimens is very remarkable in consequence of being double. At the top of a peduncle of the usual size and appearance are fixed two equal, parallel and perfect male cones. Mr. Yates showed, that some approach to this double formation is occasionally found in the genus *Encephalartus*, inasmuch as the axis of the cone is sometimes bifid near the summit.

It was also remarked, that the peduncle of *Macrozamia* bears leafy appendages, and that these have not been found in any other recent genus, but are very conspicuous on the peduncles of the fossil *Zamites gigas*, which is found in the Oolitic strata near Whitby.

Read some "Observations on the parasitic habits of *Rhinanthus Crista-galli*, and its injurious effects on the growth of Barley." By Joshua Clarke, Esq., F.L.S. &c.

These observations were made during the last summer in the parish of Debden, in the county of Essex. The field contained four acres of barley, the soil a stiffish clay; the *Rhinanthus* was growing in patches at different parts of the field, some of which were much larger than others, and occupying at least half the surface, by which

about two acres of the barley were completely destroyed, and the remaining part of the crop very much injured, both in quantity and quality. The farm consisted of 170 acres, principally clay soil, such as is usually called heavy land; thirty acres of it were of barley, about ten of which were destroyed by this plant.

In regard to the mode by which the *Rhinanthus* effects the injury, Mr. Clarke states that the fibres of the roots attach themselves to the fibres of the barley, on which they form small round tubers, or what perhaps may be more properly called spongioles, which embrace the fibres so effectually, that they suck the juices of the plant so as to starve it, and in most instances ultimately destroy it; these spongioles are formed of cellular tissue. A correct knowledge of the habits and natural history of a plant may lead to its eradication, but in this instance it is a matter of considerable difficulty, the ordinary method of destroying weeds by a summer fallow being of no avail, as the *Rhinanthus* does not grow in clean earth. Mr. Clarke has for some years been trying to raise it from seed in clean earth, but has never succeeded. The other method of destroying weeds by green crops in rows is equally unsuccessful, as it does not grow among green crops. As it is annual, it certainly should be pulled up before it seeds; and as it grows on a clay soil, and to no great extent except in a wet season, the land should be effectually drained.

Read also a Note "On the Reproduction of Lost Parts in Earthworms." By George Newport, Esq., F.R.S., F.L.S. &c.

The author exhibited three specimens of Earthworms, which have had parts of their bodies reproduced,—an occurrence which was formerly proved, by the experiments of Bonnet and Spallanzani, to take place in these animals. One of the specimens exhibited was still living, the others were preserved in spirit. In each of them more than one-third of the posterior division of the body had been restored. The new parts in all were much smaller in diameter, and the segments much shorter than in the original anterior portion of the body. Although the reputation of Bonnet and Spallanzani requires no defence, the author thought it might be interesting to the Fellows to examine these specimens, since the fact of reproduction in Earthworms and other Annelids has recently been denied. In a "Report on the British *Annelida*," by Dr. F. Williams, published in the Report of the British Association for the Advancement of Science for the year 1851, that gentleman, after mentioning the experiments of Bonnet and Spallanzani, as quoted by Prof. Owen, makes the following statement:—"On the authority of hundreds of observations, laboriously repeated at every season of the year, the author of this report can declare, with deliberate firmness, that there is not one word of truth in the above statement" (Rep. Brit. Assoc., 1851, p. 247). Dr. Williams, Mr. Newport added, must have been singularly unfortunate in his observations, since it is no uncommon thing, at this season of the year, to find Earthworms which have had a large portion of the body restored; as is easily seen by the much lighter colour, more delicate texture and smaller dimensions of the new parts, as compared with the original parts of the animal.

November 15.—Thomas Bell, Esq., President, in the Chair.

Read a Notice "On *Hodgsonia*, Hook. fil. et Thoms., a new and remarkable genus of *Cucurbitaceæ*." By Dr. J. D. Hooker, F.R.S., F.L.S. &c., and Dr. Thomas Thomson, F.L.S. &c.

HODGSONIA.

CHAR. GEN.—FL. MAS. *Calycis* tubus elongatus, post anthesin deciduus, 5-gonus, angulis dentibusve incrassatis recurvis. *Petala* 5; flavida, gamopetala, calycis limbo adnata, obovato-cuneata, patentia, apice truncata, fimbriato-lobata; lobis longissimis tortis, pendulis. *Stamina* 5, triadelpa. *Antheræ* monadelphæ, extrorsæ; loculis linearibus contortis.

FL. FEM. *Calyx* basi ovario sphærico adhærens, supernè longè tubulosus, mari omninò similis, intùs disco spongioso. *Corolla* maris. *Ovarium* 1-loculare. *Placentæ* 3, parietales, basin versus utrinque 2-ovulatae; *ovulis* ascendentibus, anatropis. *Stylus* elongatus, tubum calycis æquans. *Stigma* 3-lobum, lobis supernè emarginatis. *Bacca* depresso-globosa, magna, obscurè 5-sulcata, pulpâ induratâ demùm siccâ repleta. *Semina* per paria in nuces 6 arcetè accreta, altero minore plerumque effeto. *Testa* lignosa, basi fissa (rimâ elongatâ), profundè longitudinaliter reticulatim sulcata; epidermide vasculari in sulcos penetrante tecta. *Endopleurum* crassissimum, suberosum. *Embryo* exalbuminosus; cotyledones magni, plani; plumula lobata.

Frutex *altè scandens*. *Caulis ramosus, sulcatus, succo aqueo copioso scatens, vasis magnis aère repletis percursus*. *Folia alterna, semper-virentia, coriacea, 3-5-palmatiloba*. *Flores magni, extùs rufobrunnei puberuli, intùs pallidè straminei villosi*; masculi *spicati basi bracteati*; foeminei *axillares solitarii* (v. ex cl. Roxburgh) *in racemum brevem dispositi*. *Petiolii elongati, basi versus axillam gemmâ? corneâ conicâ stipulæformi suffulti*. *Cirrho laterales, 2-3-fidi*.

HODGSONIA HETEROCLITA, Hook. fil. et Thoms.

Trichosanthes heteroclita, Roxb. *fl. Ind.* iii. p. 705; *Wall. Cat.* no. 6684!

T. grandiflora, *Wall. Cat.* no. 6685! non *Blume*.

An *T. hexasperma* v. *T. macrocarpa*, *Blume, Bijdr.* p. 935?

Hab. in sylvis densis montium inferiorum Sikkim Himalayæ (ad 5500 ped. ascendens); Assam; Mont. Khasia, Silhet, Chittagong, Penang, Java?
—v. v. n.

A very remarkable plant, one of the handsomest and most curious of the whole natural family, with the inflorescence and flower of *Trichosanthes*, but in fruit widely different from any of the extensive Natural Order to which it belongs. It has been extremely well described by Roxburgh as a species of *Trichosanthes*, and was cultivated many years ago in the Calcutta Botanic Garden, where it is now lost. A figure of the female flower is also in the Museum of the India House. *Root* branching. *Stem* climbing for 80 to 100 feet, festooning lofty trees. *Wood* of very remarkable structure. The almost axillary conical bodies, referred to buds, but generally described as stipules, are most remarkable and deserve careful study. *Flowers*, very handsome, appear in May, and the fruit ripens in autumn and winter; female flowers are rare, and from being solitary, are less conspicuous than the males. *Ovarium* covered with small warts that project through the dense, almost velvety, rusty pubescence, 1-celled with three varietal placentæ, that project into the axis, and

clearly show the normal structure of Cucurbitaceous fruits to have a parietal placentation; cavity of the ovarium filled with watery pulp, that hardens as the fruit advances to maturity and becomes of the consistency of a hard turnip, full of watery fluid that escapes in large drops when the fruit is pierced. *Ovules* suberect, in pairs, each pair collateral and at right angles to the radius of the ovary; of these the ovule next the axis ripens, and that next the circumference of the ovary becomes accrete to the outer one and seldom ripens. This position and œconomy of the ovules is quite unique in the order. *Flowers* about 4 inches long; the limb 3 inches in diameter, inodorous; fringes of the petals 5-6 inches long. *Calyx* with several deep brown polished tubercles or warts towards each angle or tooth. Tube of the calyx lined with a thickened disc, which surrounds the style and is in contact with it; it lines the staminal tube of the male flower. Berry 6-10 inches across, of a fine deep red-brown colour, covered with a very short tomentum; pulp whitish. *Seeds* erect, very large, each double, resembling a 2-celled nut, covered with an adherent vascular pulpy coat, which penetrates deep fissures in the free face of the larger seed. *Testa* hard, somewhat porous; the free surface of the larger seed deeply grooved in anastomosing channels; outer surface rather corky or spongy, inner hard, smooth, polished. The testa is slit longitudinally down its base towards the hilum for one half or one inch in the larger seed, and has a smaller corresponding slit on the smaller nut. A compressed prolongation of the endopleurum (which is very soft, thick and corky) projects a little through this fissure, and the radicle points towards it. *Embryo* flat, of the form of the seed, occupying a narrow slit in the centre of the endopleurum, nearly as broad as the cavity of the testa, surrounded by a delicate membrane. *Cotyledons* plain, white, very oily; radicle small, conical; plumule 2-lobed, lobes notched. The seeds are eaten by the natives of Sikkim, who call the fruit Kat'hior pot. An original specimen is in Sir William Hooker's herbarium, from Buchanan Hamilton, labelled as from Penang, with the MS. name of "*Trichosanthes Theba.*" Roxburgh's trivial name of *heteroclita* has been retained, for though it was intended by its illustrious author to imply that the plant varies from its congeners of the genus *Trichosanthes*, it will apply sufficiently well in future for a plant which is heteroclite in respect of the natural family (*Cucurbitaceæ*), to which it undoubtedly belongs. Blume's descriptions are quite insufficient to determine whether it belongs to his *M. macrocarpa* or *hexasperma*, or either. These plants are no doubt congeners of *Hodgsonia*, and considering that the *H. heteroclita* ranges from the level of the sea at Penang, lat. 6° north to alt. 6000 feet in Sikkim, lat 27° north, the probabilities are great that it is also found in Java. The leaves vary from 2-lobed to 5-lobed, usually the latter, and the lobes are much acuminate, rarely blunt, coarsely serrated towards the tips or quite entire.

The genus is named in honour of B. H. Hodgson, Esq., F.L.S., Resident at Darjiling, where the plant was discovered, and whose scientific services in the Himalaya justly merit the honour of so splendid a plant.

December 6. — Thomas Bell, Esq., President, in the Chair.

Read a "Notice of several species of Bats, captured in England during the present autumn." By G. B. Buckton, Esq., F.L.S. &c.

The species referred to are *Vespertilio serotinus*, Daub., *V. Daubentonii* var. *emarginatus*, and the typical *V. Daubentonii*. Of *V. serotinus* three specimens were obtained in August last at Chartham, about three miles from Canterbury, and captured in rather a singular manner. On returning late from a fishing expedition, the author was interested in watching several large bats hawking for beetles and the white moth (*Porthesia chrysoorrhæa*), which was then plentiful. The idea occurred to him of roughly imitating the last insect by drawing a shred of white paper through the top ring of his rod and vibrating it; and this manoeuvre, under the thick trees, had the effect of a decoy, and in a few minutes he switched down two specimens almost unhurt. On another evening he procured a third individual, and might easily have obtained more, as it appeared to be the common bat of the neighbourhood; although Mr. Jenyns, to whom the specimens were submitted, states that he has seen but two other English specimens, which (as appears from Mr. Bell's 'British Quadrupeds') were taken in the neighbourhood of London. Mr. W. Borrer has, however, found it not of unfrequent occurrence in the chalk excavations in Dover Cliff. When handled, these bats uttered a shrill chatter, and showed their teeth, with a strong disposition to bite. Their flight is graceful but somewhat heavy, and appeared to be limited to about an hour after sunset. They seem to affect the vicinity of high trees and shady places.

Vespertilio Daubentonii var. *emarginatus* was knocked down while flitting in company with another, over the water, under some willows on the banks of the river Stour; and three specimens of *V. Daubentonii* were obtained from the church-tower of Christchurch, Hants, where they may be found in plenty. Mr. Buckton describes the differences between *V. emarginatus* and *V. Daubentonii* as follows. *V. emarginatus* is nearly an inch larger in expanse of wings and half an inch longer from the nose to the tail*. The ears are somewhat narrower and more deeply notched; the thumb is stouter, and with reference to the size of the bat not so long. The fur is more of an ash-gray, and the flying membrane and fur of the under side more cool in colour. It appears to have much of the habit of *V. mystacinus*. On falling into the water it swam well to the bank, notwithstanding some current in the stream. Mr. Couch, in a paper published in the 'Zoologist,' has recorded the occurrence of *V. emarginatus* in the neighbourhood of Falmouth; but Mr. Newman, in the same

* The actual measurements are as follows:—

	<i>V. emarginatus.</i>	<i>V. Daubentonii.</i>
	inches.	inches.
Expanse.....	10 $\frac{1}{4}$	9 $\frac{1}{2}$
Nose to tail	3·7	3·1
Fore-arm	1·6	1·6 nearly.
Tail	1·4	1·2 $\frac{1}{2}$
Thumb	·4	·3

periodical for September 1852, has expressed a doubt (which is shared by others) of the existence of the continental *V. emarginatus* in this country. On this subject Mr. Buckton read part of a letter from Mr. Couch addressed to Mr. Borrer, to the following effect. Mr. Couch regrets that he has no specimens, it being his custom to send away his specimens as soon as he has made such an examination as he deems necessary. The last he had were sent to Mr. Heysham at Chester, and the little Horse-shoe Bat travelled all the way from Cornwall thither alive. He is preparing a paper on the subject of Bats for the 'Zoologist,' in which he has collected many particulars which he thinks interesting; but with regard to the disputed identity of his species he refers to the 'Naturalist' for November 1851, where will be found a paper on this species, with a figure, by Mr. Cocks of Falmouth. The specimen which Mr. Couch examined, and to which he assigned this name, agreed with the characters there pointed out; and appeared to differ widely from any other British Bat. The notch in the ears was much more decided than in Mr. Bell's figure.

Read also a "Notice of the appearance of myriads of a species of *Aphis* in the North of England, during the present autumn." By J. Hogg, Esq., F.R.S., F.L.S. &c.

These insects not only abounded in immense numbers in country places, but also in vast swarms in the very centre of the town of Stockton. As these insects appeared just at the time when the cholera had broken out in that portion of England, many people considered that they were connected with that disease; and that they were forerunners, or at least indicative of the presence of the cholera. This Mr. Hogg considers to be fabulous and absurd, but he thinks that some of the same causes which might promote cholera, might likewise assist in the rapid increase of these *Aphides* at the same season; such as warm, moist weather, the absence of wind, and other like causes. Or indeed the excess, or it may be the want of electricity in the atmosphere, might tend to account for the presence of cholera, and the extraordinary multitudes of these insects in the same localities; but that the existence of the cholera was in any way influenced by the *Aphides*, or the converse, he altogether disbelieves. Mr. Hogg exhibited some of these insects in the hope that the species might be determined. He had not examined them minutely, but believed that they might prove to be the *Aphis Rumicis*. They were taken by him at Norton, in the county of Durham, in the latter part of September in the present year. He added that he has no recollection of having witnessed before such multitudes of these black, or dark-coloured, flies with light wings; and that they were extremely troublesome by flying into the eyes and mouth.

Read, further, a paper entitled "Remarks on Sarsaparillas." By Berthold Seemann, Esq., Ph.D., F.L.S. &c.

After quoting a remark of Sir W. Hooker, that those plants which are most useful to mankind are frequently the least known botanically, and the testimony of the late Dr. Pereira as to the unsatisfactory nature of our knowledge of the botanical sources of the various sorts

of Sarsaparilla, Dr. Seemann proceeds to endeavour to elucidate the facts connected with this perplexing subject. He refers first to specimens collected by Dr. Warszewics, during his last visit to the Volcano of Chiriqui in Veraguas, and transmitted by him to Mr. Daniel Hanbury, and which Dr. Seemann pronounced to belong to the *Smilax officinalis* of Humboldt and Bonpland; a view which was confirmed by a tracing made in Paris by Mr. Hanbury, from the original imperfect specimens of that plant, and subsequently by specimens collected by Dr. Warszewics at Bajorque in New Granada, the locality where Humboldt and Bonpland obtained their *Smilax officinalis*; and which are completely identical both with the plant of the two distinguished travellers above named and with the specimens collected by Dr. Warszewics at Chiriqui. The author then extended his inquiry to other so-called species supposed to be allied to *Smilax officinalis*, and states that having examined the specimens of *Smilax papyracea* of Poiret, in the possession of Mr. Bentley, on which that gentleman had published an able article in the Pharmaceutical Journal for April 1853, he became convinced of the identity of that plant also with *Smilax officinalis*. He next refers to *Smilax medica* of Schlechtendal and Chamisso, well described and tolerably figured by Nees von Esenbeck, which he believes to be also identical with the plants previously examined; the supposed differences having originated in the extreme variableness in this genus of the roots, stems, branches and leaves, from which the principal characters of the three supposed species were derived.

The following is the description given by Dr. Seemann of the plant which unites under the name of *Smilax officinalis* the synonyms of *Sm. papyracea* and *Sm. medica*. It grows in the lower coast region as well as on the mountains at an elevation of 5000 feet above the sea, and is confined (as far as at present known) to the continent of America, where it is found between 20° N. and 6° S. latitude, and 110° and 40° W. longitude. Jamaica, from whence so large a quantity is annually obtained, has been well ascertained not to produce any itself, the article known as "Jamaica Sarsaparilla" being imported into that island from the Spanish Main; nor is it authentically proved to occur in any of the other islands of the West Indies. The rhizoma is cylindrical, and the roots (*Sarsaparilla of Commerce*), abounding more or less in starch, according to age and locality, are as many as 10 feet in length, and generally furnished with branched rootlets (beards). The plant itself is glabrous in every part, and averages 50 feet in length. The stem is quadrangular, furrowed or striated, and on the edges furnished with flat prickles, which are occasionally curved upwards. The branches are either quadrangular or multiangular, and either with or without prickles. The petiole, sheathing at the base, is furnished with two spirally-twisted tendrils, which are often 10 inches long, and either furnished with prickles or destitute of them. The leaves are extremely variable; at times they are broadly cordate, almost trilobed, gradually tapering to an acumen; at others they are ovate-oblong, and even lanceolate, and rounded at the apex, but always mucronate; they are generally 5-nerved, the two outermost nerves being mostly

bifurcated, and all the nerves prominent on the under surface, acutely edged and often furnished with prickles; the colour of the leaves is of a dark green, the under surface being a shade paler than the upper, but never glaucous; as in many other species of *Smilax*, their length varies from 2 inches to a foot, and their breadth at the base from 1 to 6 inches; in thickness also they vary considerably, being either coriaceous or more or less paper-like, and in the latter case furnished with transparent lineolar dots. The peduncles are axillary and solitary, somewhat flattened, and bear an umbel composed of about sixteen flowers. The flowers are still unknown. The berries are round, red, and of the size of a small cherry or less; and each contains two or three plano-convex seeds of a light brown colour.

Dr. Seemann does not expect that botanists will object to the union of the three supposed species; but he fears that pharmacologists may be disinclined to adopt his views, inasmuch as regarding the different commercial sorts of Sarsaparilla as essentially distinct, they lay great stress upon certain superficial characters of little botanical importance. Thus the so-called Lisbon or Brazilian Sarsaparilla, which comes in rolls about 3 feet long, is chiefly distinguished from the Jamaica Sarsaparilla, by having fewer rootlets or beards, and inasmuch as the beards contain a greater amount of mealy matter, is on that account of less value in the market. But the author states, that, if the Lisbon Sarsaparilla be carefully examined, it will be plainly seen that the rootlets have been removed by some rough mechanical process, and that when gathered they had as much beard as the Jamaica kind, making it probable that if the merchant who buys up this Zarza in various parts of Brazil, would instruct the collectors that the preservation of these rootlets would not only save them trouble but also increase both the weight and commercial value of the roots, we should soon have from Brazil the same valuable Sarsaparilla which we now obtain from Jamaica. The distinction, however, on which pharmacologists lay the greatest stress is into "mealy" and "non-mealy," according as the mealy coat immediately below the outer cortical layer is of greater or less thickness, or entirely wanting. This distinction, which is at once seen to be by no means well-defined, depends moreover on the age of the roots and the locality in which they were collected, the formation of starch being probably entirely regulated by physical circumstances. In a bundle of Jamaica Sarsaparilla many roots may be found mealy at one end and non-mealy at the other. Again, the form of the cells of the nucleary sheath of the roots has been considered as furnishing good marks of distinction between the Sarsaparillas of Central and South America; and Schleiden declares that he can readily distinguish them microscopically. But this theory, as appears from Mr. Bentley's paper before referred to, does not rest on any safe foundation.

Dr. Seemann believes therefore that he may safely conclude that the greater part of the Sarsaparilla of Commerce is the produce of one and the same species of *Smilax*; but he does not wish to infer from the identity of the three supposed species, that the commercial distinctions, now so universally acknowledged, ought to be given up.

He believes that so long as the Brazilians continue to strip the roots of their beards, there will be in the market the so-called Lisbon Sarsaparilla, and as long as the inhabitants of the Spanish Main preserve these rootlets, there will be Jamaica Sarsaparilla; and further, that as long as the climate and other physical conditions of Guatemala remain unchanged, we shall receive from thence Sarsaparilla distinguished by its abundance of mealy matter.

MISCELLANEOUS.

RUNCINA HANCOCKI.

WHEN in company with Mr. William Thompson, I observed *Runcina Hancocki* in considerable abundance in the pools left between the rocks at low tide in Belmont Cove, Weymouth, but only on the tufts of *Hypnea purpurascens* which were infested with *Diatomacea*, which induces me to believe that they feed on these parasitic plants. I brought several of them to London, and have since sent some to Mr. Alder, who verifies the determination. Messrs. Alder and Hancock (Ann. and Mag. Nat. Hist. xviii. 289. t. 4), when they first described the animal, referred them to the genus *Limapontia*, order *Inferobranchiata*. Mr. Edward Forbes (Brit. Moll. iii. 611. t. CCC.) formed them into a genus, placed provisionally at the end of the *Eolididæ*, observing that in all probability it represented a distinct family.

The examination I have been able to bestow on the animal induces me to agree with Mr. Forbes on this point, and I should be inclined to arrange the *Runcinidæ* in the order *Pleurobranchiata*, near *Bullidæ* and *Pleurobranchidæ*. It has the armed gizzard and gills of *Aplysiadæ*. To the excellent description of Messrs. Alder and Hancock, I may add, that the tongue-membrane is covered with three longitudinal series of large transparent teeth, like some of the *Bullidæ*. The central tooth is broad, transverse, with the upper edge reflexed, notched in the middle, and with three unequal denticles on each side of the middle line. The lateral teeth are rather large, versatile, conic, arched, compressed, with an acute tip. The prehensile collar is horny, large, rugose, with roundish tubercles. I am somewhat inclined to consider the front part of the back, enclosing the eyes, which are rather bent up on the sides and separated from the other part of the back by a paler colour, as the frontal lobe of the *Bullidæ*, which is united at this paler part to the true mantle, giving the animal the appearance of having a single oblong shield-like mantle. The mantle is very hard and tough, but without any appearance of a shell or spicula.—J. E. GRAY.

Note on the Coloration of the Waters of the Chinese Sea.

By M. CAMILLE DARESTE.

In this note M. Dareste informs us that the *Trichodesmium erythraeum*, described by Ehrenberg as the cause of the red colour assumed by the Red Sea at certain periods, has been brought from the Chinese sea, in a sample of water taken at a time when a great extent of the ocean was coloured red and yellow. The coloration was not con-